Mr. Charles D. Cooke, D.V.M
Heritage Animal Hospital, Inc.
8300 North Clinton Street
Terre Haute, IN 47805

Dear Mr. Cooke:

Re: Exempt Construction and Operation Status,
167-12496-00126

The application from Heritage Animal Hospital, Inc., received on July 17, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following animal crematory unit, to be located at 8300 North Clinton Street, Terre Haute, Indiana, is classified as exempt from air pollution permit requirements:

(a) One (1) crematory unit for animal remains, with a maximum waste capacity of 150 pounds per hour. Supplemented by natural gas, with Liquid Petroleum (LP) gas as backup fuel, at a rate of 1.7 million (MM) British thermal units (Btu) per hour. Emissions exhausting to the following stack; stack ID: stack #1, stack height: 17 feet, stack diameter: 1.7 feet, gas discharge temperature: 1000EF, and gas flow rate: 2600 acfm.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 4-2-2, this natural gas fired 1.7 million (MM) Btu per hour incinerator, with LP gas as backup fuel, rated at a capacity of 150 pounds per hour, shall:

(1) Consist of primary and secondary chambers or the equivalent;
(2) Be equipped with a primary burner unless burning wood products;
(3) Comply with 326 IAC 5-1 and 326 IAC 2;
(4) Be maintained properly as specified by the manufacturer and approved by IDEM and VCAPC;
(5) Be operated according to the manufacture's recommendation and only burn waste approved by the IDEM and VCAPC;

(6) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
(7) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented;
(8) Not emit particulate matter (PM) in excess of 0.5 pounds per 1000 pounds of dry exhaust gas corrected to 50% excess air; and
(9) Not create a nuisance or a fire hazard.

The operation of this incinerator shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) and Vigo County Air Pollution Control (VCAPC) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

George M. Needham
Director
Vigo County Air Pollution Control

DKW

cc: Mindy Hahn - IDEM
Winter Bottum - IDEM
Tim Porter - Vigo County Area Planning
Jack Roetker - Vigo County Health Department

Indiana Department of Environmental Management
Office of Air Management
and
Vigo County Air Pollution Control

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**Heritage Animal Hospital, Inc.**
Source Location:	**8300 North Clinton Street, Terre Haute, Indiana 47805**
County:	**Vigo**
SIC Code:	**6553**
Exemption No.:	**167-12496-00126**
Exemption Permit Issuance Date:	**August, 21, 2000**
Permit Reviewer:	**Darren Woodward**

Vigo County Air Pollution Control (VCAPC) has reviewed an application from Heritage Animal Hospital, Inc. relating to the construction and operation of the following equipment:

(a) One (1) crematory unit for animal remains, with a maximum waste capacity of 150 pounds per hour. Supplemented by natural gas, with Liquid Petroleum (LP) gas as backup fuel, at a rate of 1.7 million (MM) British thermal units (Btu) per hour. Emissions exhausting to the following stack; stack ID: stack #1, stack height: 17 feet, stack diameter: 1.7 feet, gas discharge temperature: 1000EF, and gas flow rate: 2600 acfm.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
#1	#1 crematory unit	17	1.7	2600	1000

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 17, 2000.

Emission Calculations

See Appendix A (Emissions Calculation Spreadsheets) of this document for detailed emissions

calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	1.56
PM-10	1.59
SO_2	0.791
VOC	0.139
CO	1.59
NO_x	2.31

*Note: Worst Case Scenario was used when considering the combustion of LP gas and Natural gas.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Vigo County.

Pollutant	Status
PM-10	attainment
SO_2	maintenance
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Vigo County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

326 IAC 12 and 40 CFR 60 (New Source Performance Standard)

This incinerator is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.50, Subpart (E)), because this incinerator has a charge capacity of 1.8 tons per day, which is less than 50 tons per day, the applicability threshold of this subpart.

326 IAC 14 and 40 CFR 61, and 63 (National Emission Standard For Hazardous Air Pollutants)

The facility under this construction is not subject to Emission Standard For Hazardous Air Pollutants, 326 IAC 14 and 40CFR 61, and 63, because there is not any Hazardous Air Pollutants emitted from this facility.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This source is located in Vigo county and the potential to emit all criteria pollutants is less than hundred (100) tons per year. The source is not one of the twenty-eight (28) listed sources and its potential to emit PM10 is less than one-hundred (100) tons per year including fugitive

emissions, therefore, 326 IAC 2-6 does not apply.

326 IAC 4-2-2 (Incinerators)

This natural gas fired incinerator, with LP as backup fuel, is subject to 326 IAC 4-2-2 (Incinerators). Pursuant to 326 IAC 4-2-2, the particulate matter emissions shall be limited to 0.5 1000 pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)

This natural gas fired incinerator, with LP as backup fuel, is not subject to 326 IAC 7-1.1-1 because the incinerator does not have the potential to emit twenty-five (25) tons of sulfur dioxide per year or have actual emissions of ten (10) pounds of sulfur dioxide per hour.

326 IAC 8-1-6 (general provision relating to VOC rules - general reduction requirements for new facilities)

This natural gas fired incinerator, with LP as backup fuel, is not subject to this rule, because the incinerator does not have the potential emissions of twenty-five (25) tons of VOC per year, and none of the other article 8 rules apply to this incinerator.

326 IAC 9-1-1 (Carbon Monoxide emission limits)

This natural gas fired incinerator, with LP as backup fuel, burns the waste gas stream in a secondary chamber, which is equivalent to a direct-flame afterburner control. Therefore, this incinerator is in compliance with this rule.

326 IAC 10-1-1 (Nitrogen Oxide Rules)

This natural gas fired incinerator, with LP as backup fuel, is not located in Clark and Floyd Counties, therefore, this rule does not apply to this incinerator.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) None of the listed air toxics will be emitted from this source.

Conclusion

The operation of this crematory unit shall be subject to the conditions of the attached Exemption CP 167-12496-00126.

Appendix A: Emission Calculations
Incinerator

Company Name: **Heritage Animal Hospital**
Address City IN Zip: **8300 North Clinton Street, Terre Haute, Indiana 47805**
CP: **167-12496**
Plt ID: **167-00126**
Reviewer: **Darren Woodward**
Date: **August 21, 2000**

THROUGHPUT lbs/hr	THROUGHPUT ton/yr
150	657

	POLLUTANT				
	PM	SO2	CO	TOC	NOX
Emission Factor in lb/ton	4.67	2.17	2.95	0.299	3.56
Potential Emissions in ton/yr	1.53	0.713	0.969	0.098	1.17

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Tables 2.3-1 and 2.3-2, Controlled and Uncontrolled emission factors for Air Medical Waste Incinerators.

Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **Heritage Animal Hospital, Inc.**
Address City IN Zip: **8300 North Clinton Street, Terre Haute, Indiana 47805**
Exemption #: **167-12496**
Plt ID: **167-00126**
Reviewer: **Darren Woodward**
Date: **August 21, 2000**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
1.7	14.9

Pollutant

Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.014	0.057	0.004	0.745	0.041	0.625

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emission Calculations
LPG - Propane - Industrial Boilers
(Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Heritage Animal Hospital, Inc.
Address City IN Zip: 8300 North Clinton Street, Terre Haute, Indiana 47805
Exemption #: 167-12496
Plt ID: 167-00126
Reviewer: Darren Woodward
Date: August 21, 2000

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 0.10 x S
		S = Sulfur content = 9.60 grains/100ft^3
1.70	162.75	

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.4	0.4	1.0 (0.10S)	14.0	0.5 **TOC value	1.9
Potential Emission in tons/yr	0.033	0.033	0.078	1.14	0.041	0.155

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).